

R E M A R K S

This is in response to the Office Action that was mailed on August 25, 2004. Claim 1 is amended to recite the relative proportion of acid groups to amide groups in components (B) and (C) of the claimed compositions, based upon such disclosure herein as that in lines 23 to 27 on page 14 of the specification. No new matter is introduced by this Amendment. Claims 1-11 are pending in the application.

Claims 1 and 2 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 5,652,326 (Ueda). Claims 3, 4, 10, and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ueda in view of US 5,854,324 (Tajima). The rejections are respectfully traversed.

As amended, the claims recite that the proportion of acid groups in component (C) to amide groups in component (B) is in a range of 0.1 - 50 moles of the acid groups to 100 moles of the amide groups. Ueda is silent as to the proportion of acid groups to amide groups.

This proportion of acid groups to amide groups is calculated as follows (using in this case the values set forth in Example 17):

(i) 10 parts by weight of the (b-1) component is incorporated into the composition. The "caprolactam residue"

of the (b-1) component is 28.3 parts by weight. Accordingly, the amount of the amide groups contained in the (b-1) component is $10 \times (28.3/100) / 113 = 0.025$.

(ii) 25 parts by weight of the (c-3) component is incorporated into the composition. The "maleic acid modification rate" of the (c-3) component is 1.5 wt-%. Accordingly, the amount of the acid groups contained in the (c-3) component is $25 \times (1.5/100) / 97 = 0.0039$.

(iii) Using these values, the relative amount of the acid groups based on 100 moles of the amide groups is $0.0039/0.025 \times 100 = 15.4$ (no units, or "moles/100 moles").

The results reported in the present specification for Examples 17 and 19-25 of the present invention and Comparative Example 17 clearly establish that the that the proportion of acid groups in component (C) to amide groups in component (B) is significant, and has a profound influence on the properties of the compositions in question. Nothing in the Ueda reference or the Tajima reference suggests that such is the case, much less teaches the range for such proportion recited in the present claims.

As instances of such effect on properties, the greater the proportion of acid groups in component (C) to amide groups in component (B), the smaller the heat stability and the volume resistivity. And, the smaller the proportion of acid

groups in component (C) to amide groups in component (B), the greater the dispersed particle size. Also, the values of the Izod impact strength and the tensile elongation peak when the proportion of acid groups in component (C) to amide groups in component (B) is in about 30 moles of the acid groups to 100 moles of the amide groups.

Thus, for example, approximate particle sizes are as follows:

Example No.	Acid:Amide Ratio	Particle size (μm)
17	15.4	5
19	0.5	10
20	1.0	5
21	5.1	4
22	10.3	4
23	30.9	3
24	41.2	3
25	51.5	3
Comp. Ex. 17	0.0	30

The particle sizes of the composition of Comparative Example 17, which composition does not have the acid:amide ratio required by the present claims, are much bigger than the particle sizes of the presently claimed compositions. Thus the presently claimed compositions have significant uniformity and processing advantages as compared to conventional compositions.

Also, for example, approximate tensile elongation values are as follows:

Example No.	Acid:Amide Ratio	Tensile Elongation (%)
17	15.4	150
19	0.5	80
20	1.0	100
21	5.1	120
22	10.3	140
23	30.9	190
24	41.2	160
25	51.5	130
Comp. Ex. 17	0.0	50

The tensile elongation value of the composition of Comparative Example 17, which compositions do not have the acid:amide ratio required by the present claims, is significantly lower than the tensile elongation values of the presently claimed compositions. Thus the presently claimed compositions have significant performance advantages as compared to conventional compositions.

Applicants have thus demonstrated that the presently claimed compositions are significantly improved in various ways as compared to conventional compositions. In any case, however, regardless of the precise scale of improvement provided by the presently claimed compositions, a fundamental consideration with respect to the obviousness rejections of record is that neither Ueda nor Tajima teaches or suggests that the physical properties of the compositions in question are affected by, and can be

managed by adjusting, the acid:amide ratio that characterizes the present invention. Withdrawal of the rejections of record is respectfully solicited.


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By


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